The Driller
BUCYRUS ERIE
JANUARY, 1958

each year for many years . . .
More Bucyrus-Eries Have Been Sold Than Any Other Make

This Bucyrus-Erie 60-L, one of two owned by a Minnesota drilling firm, is drilling a 20-in. municipal well for the Village of Fridley, near Minneapolis.

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Dept. TD-158 **Seneca Falls, N. Y.**

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NO SEAL FAILURES

NO WATER-LOGGED TANKS

Best jet yet!

GOULDS

Water Systems

Sell the pumps that help sell you . . .

The Driller

South Milwaukee, Wisconsin

Vol. 32 No. 1

January 1958

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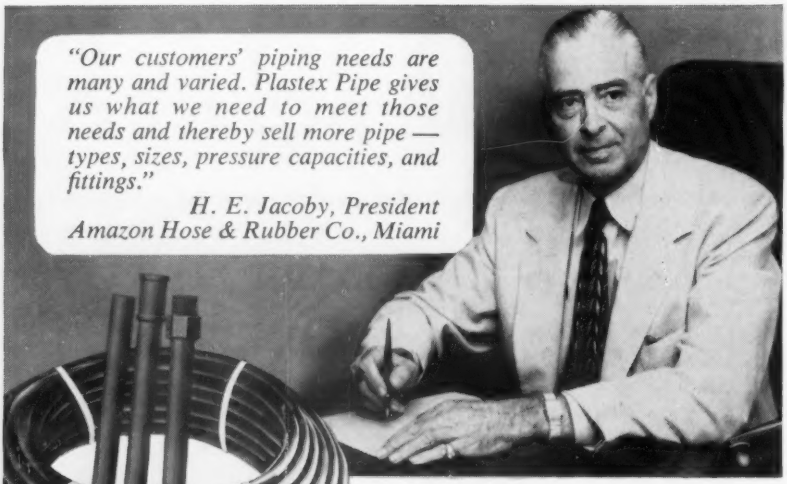

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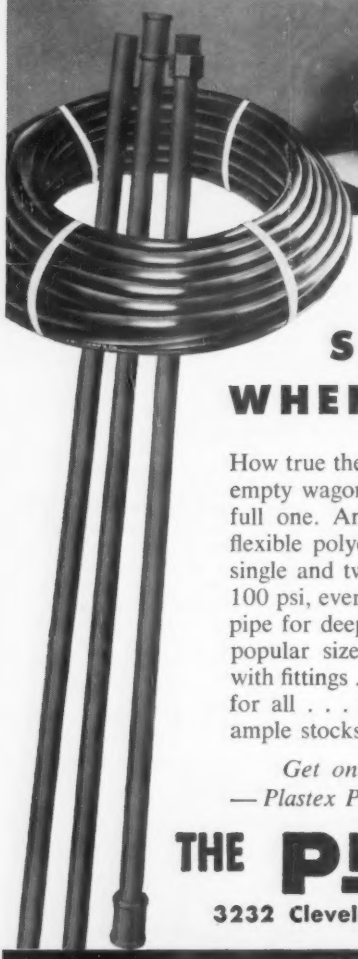

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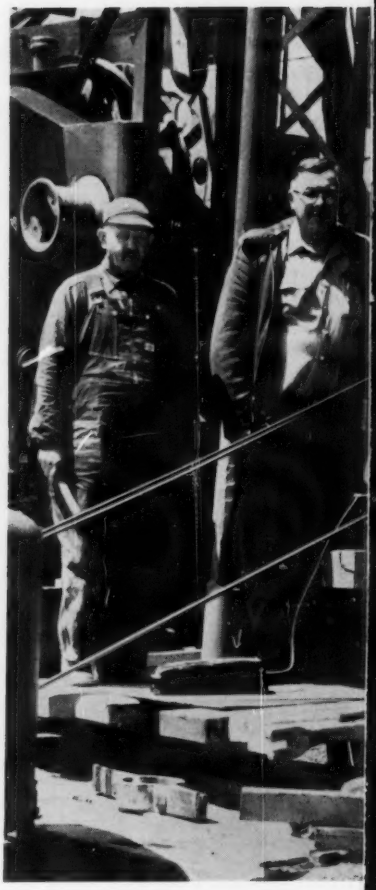
"Quality" Is His Watchword

In business for only four years, this Pennsylvania driller has already established a reputation for quality work and service.



HARD work and a reputation for quality service have developed a successful business for Roy H. Odenheimer, owner of the R. H. Odenheimer Co., Allentown, Pa. The firm, currently handling both drilling of wells and complete pumping installations, has been in the pumping equipment business since 1940, but began drilling only four years ago.

The big step into the drilling field was prompted by two things: (1) the realization that drilling and pump work go together; (2) M. B. Biery, a close business friend who had for many years drilled most of the wells serviced by Odenheimer, sold out in 1950. A few months later, unfortunately, Biery passed away. Several of Biery's men joined the Odenheimer firm, and the combinaton of quality pump service and experienced drilling is paying off in this predominantly Pennsylvania Dutch territory.

Seven drills are kept busy on domestic and industrial wells within a 40-mi. radius of Allentown. There's usually at least a month's backlog of work.

"We've put down about 600 wells since we began drilling," Odenheimer remarked during a recent visit by *The Driller*. "Last year, we completed about 180 wells. It all depends on the depth and conditions, naturally. For example, we spent four months on an 8-in., 600-ft. deep well, drilling mostly through granite. The well pumped only 60 gpm, the same amount we had obtained at 300 feet, which is the average depth of our wells."

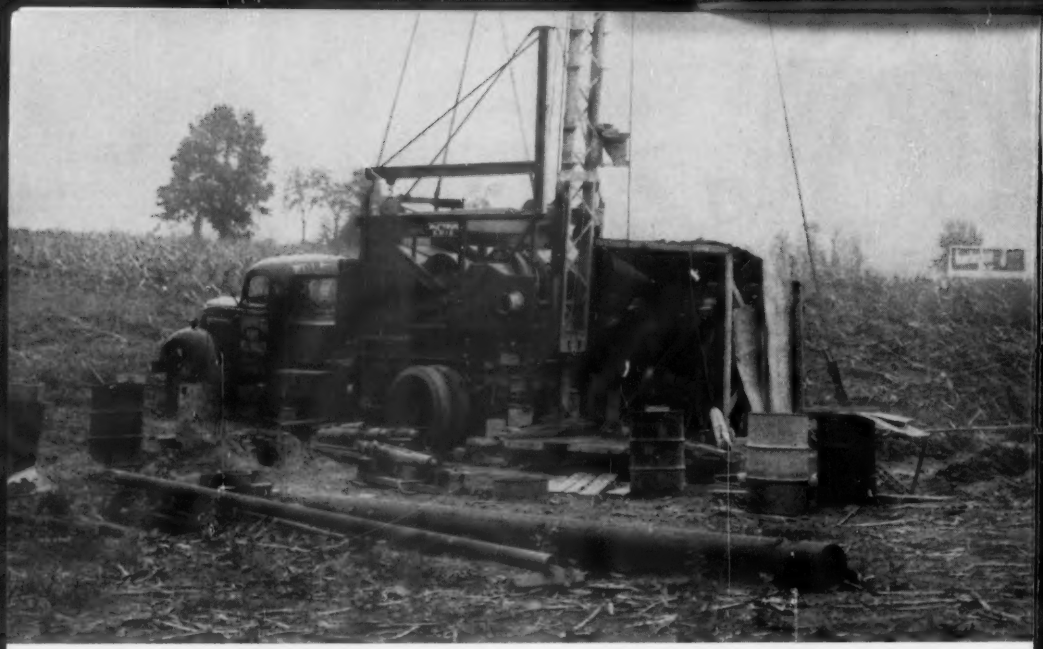
The usual diameter of Odenheimer's wells is six inches, but it ranges

Driller R. H. Odenheimer (center) poses with two of his men after completion of a well. Odenheimer has built up a reputation for quality work in his area.

up to 20 inches. Depths vary from as shallow as 50 feet all the way down to 600 feet.

"We keep accurate well records," Odenheimer pointed out. "Have to, in fact, because all of our drills are licensed by the state of Pennsylvania. We have to file reports on all of our wells with the Department of Internal Affairs at the state capitol in Harrisburg. We have a strip log on every well we work on, even if it's only 10 cents worth!"

The 50-yr. old Odenheimer does none of the actual drilling. He keeps busy from dawn to dusk, however, handling all of the welding and a good deal of the necessary repairs early in the morning. Later in the day, he follows through on his many pumping business contacts and drilling leads. These personal contacts,



Driller William Miller and helper Morris Oldt get in out of the mist while operating Odenheimer's 60-L on a well being drilled for a proposed motel.

accumulated over a period of 27 years, help keep Odenheimer's business alive.

"When you travel about the area for 27 years," smiled Odenheimer, "people get to know you pretty well."

Odenheimer left school at the age of 15, and spent 10 years as a welder in a cement mill machinery plant before getting into the pumping business.

"It was tough work for a youngster, but the welding experience has really helped in our work," explained Odenheimer, while guiding *The Driller's* representative through his spacious shop and office, which contain 10,000 square feet of floor space.

"We do all our own welding right here in the shop. We make most of our tools and dress our own bits, mostly 8-in. diameter and up. We hand-dress the bits, heating them with a coke forge. We also use 6-in. Gillrock bits on a rental basis. When these bits are dull, the Gillrock people come here (from nearby Lebanon, Pa.) and replace them with sharp bits."

Back in 1930, when jobs were not so easy to get, Odenheimer left welding and became a helper in the pumping business. In 1940, he launched his own business. Two years later, he purchased his present shop building and office. His current payroll lists 15 employees and is handled, among other duties, by office manager Earl J. Odenheimer, a brother.

In breaking down the types of wells drilled by the company, Odenheimer referred to records kept up by Earl. About 60% are for suburban homes and 30% for industrial uses. Farm and irrigation wells account for the other 10%.

The deepest well put down by any of Odenheimer's seven rigs was a 600-ft. deep municipal well for domestic home use by the City of Springtown. It was drilled last winter with

Above—At controls of 22-W, John Bley operates bailer on well he's drilling.

Right—Driller Edgar Christ drills 6-in. drainage well for new suburban home.

a Bucyrus-Erie 60-L. It was started at 10-in. diameter and reduced to 8-in. at a depth of 30 feet, where hard sandstone was encountered. About 33 feet of casing were driven down, just into the sandstone. The well pumped about 60 gpm.

A 15-in., 227-ft. deep industrial well for Air Products, Inc., Emmaus, Pa., provided the greatest flow Oden-

Here's an angle view of Odenheimer's shop and office building, which occupies 10,000 square feet of floor space. His home is hidden by a group of trees at left.

Driller Franklin Yenser operates a 22-W on a 6-in. suburban home well.

heimer ever had from a well. Put down with the same 60-L, it was a 15-incher all the way and registered a free flow of 300 gpm, rising a foot above ground level. The well eventually pumped 3,000 gpm.

One of Odenheimer's four Bucyrus-Erie 22-Ws licked what the amiable contractor regards as his crew's toughest job to date. It was a fishing problem. After a half-hour of deepening a dry well which had been drilled five or six years ago for a home in suburban Allentown, the 6-in. diameter bit broke off at the pin and became lodged at 150 feet in loose formation *below the casing*. Subsequent fishing for the bit took all of three weeks, using wall hooks to straighten it and then running down the fishing tools.

"The boys (driller William Miller and helper Morris Oldt) finally got the bit out," explained Odenheimer. "They continued drilling to a depth of 220 feet, put in a submersible, and pumped out 10 to 12 gpm. It took them only 1½ weeks to complete the operation after retrieving the bit."

Miller, 59, of Allentown, has been drilling for about 40 years, 37 of them with Biery. Oldt, 66, also an Allentown resident, has spent 13 years as a helper after a long career in railroad work. Their wells normally vary from 8 to 20-in. diameter and include farm, suburban, industrial, irrigation and elevator shaft work. This team has worked together on 28 jobs for Odenheimer, including two elevator shafts (16 and 20-in. diameters).

When visited by *The Driller,* Miller's 60-L had drilled to a depth of 340 feet on a well for a proposed motel site. The hole was started at 16-in. diameter, reduced to 12-in. at around 80 feet, and went to 10-in. at 100 feet. Clay was encountered to 175 feet, then some loose rock and a series of boulders (which required four separate blasts) and, finally, limestone. Water was expected anywhere up to 400 or 500 feet.

Miller recalled a 10-in., 584-ft. deep municipal well he drilled for the City of Allentown (with Biery's 60-L). It flowed freely at 300 gpm, but the city put an electric turbine on it and now gets 1,500 gpm per 40 hours. The well is used only when water from the city's reservoir is low.

Another 10-in. finished diameter, 227-ft. deep well at Trexlertown hit 700 gpm with a turbine pump, ac-

Among the tools and equipment that have been primarily homemade in the Odenheimer shop are the overhead hoist crane and casing clamp shown here.

cording to Miller. On his fastest drilling job, 280 feet of 8-in. hole were drilled in three weeks, "pretty much in limestone". When the hole was at the 352-ft. depth, Odenheimer brought in a 22-W to finish it so the 60-L could begin another well on schedule.

Their toughest problem was providing a 10-in., 260-ft. deep sink hole for a paper cup manufacturer in Trexlertown, to dispose of waste water and for drainage around the building. It was put down into broken limestone, including several boulders, which had to be blasted. For the larger boulders, one to 1½ pounds of Hercules dynamite with 60 to 100% gelatin were used.

John Bley, 52, of Allentown, who

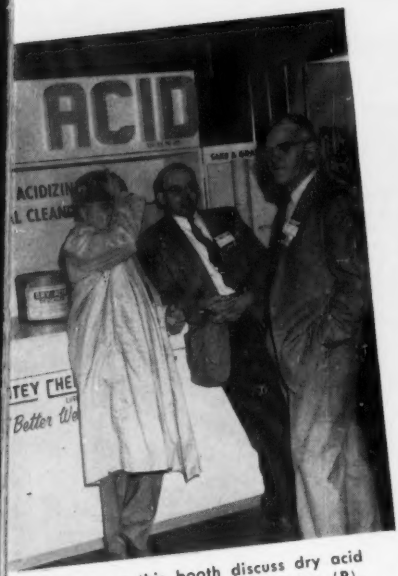
(Continued on page 32)

Wrapping up another work day, driller Harold Shellhamer lubricates his 22-W.

Conventioneers chat with each other before ribbon-cutting ceremony.

Oklahoma NWWA

Left—In early morning hours, this trio of drills awaits start of exposition.



Visitors at this booth discuss dry acid treatment of wells with B. J. Cotey (R).

The Tait Mfg. Co. occupied this booth.

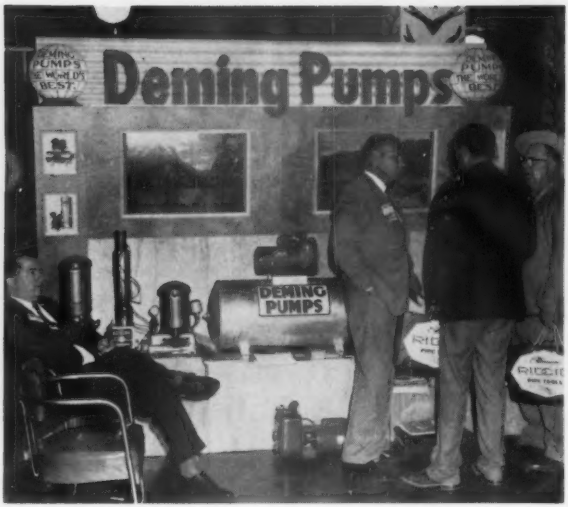
City Host to 1957 Exposition

Below—A clowning driller waits to have his picture taken in Bucyrus-Erie booth.

Cattle roundups . . . stampedes . . . stagecoaches throwing up clouds of dust in desperate attempts to out-run bands of unfriendly Indians . . . desperadoes reaching for their 45s in the Silver Slipper Saloon . . . These are the thoughts that flash through a youngster's mind when somebody mentions Oklahoma City. A lot of grownups, too, who really know better, like to envision Oklahoma City in terms of these Wild West fantasies.

The 1,472 persons who visited Oklahoma City to attend the Eighth Annual National Water Well Exposition last Nov. 4-8, however, found it to be a modern, bustling city, with few traces remaining to remind them of its buckskin heritage.

A breakdown of the registration



figures revealed that 434 drilling contractors attended the exposition; manufacturers' and suppliers' representatives totalled 666; ladies and children, 267; and others, 105. They all found more than enough to keep themselves on the move during their 5-day convention stay.

A ribbon-cutting ceremony, with Mrs. Howard Andrew, wife of the outgoing NWWA president, in charge of the snipping detail, opened the Oklahoma City Municipal Auditorium to waiting and eager conventioneers at 1:00 p.m. on Tuesday, Nov. 5. Highlights of the ceremony

Left—A brief ribbon-cutting ceremony opened auditorium to convention-goers.

Above—These pump manufacturers had adjoining booths. **Center**—A large crowd attended the annual banquet and dance. **Left**—A pump discussion takes place in The Deming Co's booth.

were short welcoming addresses by NWWA officials and by Oklahoma's governor, Raymond Gary. Seconds after the snip of the scissors, the Zebra Room, where exhibitors had their booths set up, took on the appearance of opening day at the "County Fair." Drillers who hadn't seen each other since the 1956 Exposition renewed old acquaintances and visited colorful display booths to chat with manufacturers' and suppliers' representatives. They received free exposition souvenirs; one company gave visitors to its booth yardsticks; another passed out shopping bags to hold the countless pieces of literature that were to be picked up; still another manufacturer photographed guests in its booths before a mirror arrangement and presented them with complimentary 5-image pictures of themselves. More than 100 booth spaces were occupied by over 90 exhibitors of a wide variety of drilling equipment and related supplies. They included manufacturers and suppliers of cable tool drills, rotary rigs, pumps, plastic pipe, wire line, motors, rotary and cable tool bits, and other well supplies and accessories.

Below—Drills are displayed in neat rows in park in front of auditorium.

A complete series of educational lectures and talks by experts in their respective fields gave interested persons excellent opportunities to pick up

pointers which they could put to use in their own businesses.

A Submersible Program, for example, was held in the Skirvin Hotel, where most of the other exposition activities also took place. Topics discussed as part of this program and the speakers who covered them are: *Submersible Service Through a Central Service Agency*—G. A. Patterson, Perfection Mfg. Co., Belvidere, Ill.; *Service Starts with Selling a Well to Fit a Submersible*—L. F. Swanson, L. F. Swanson & Son, Gibson City, Ill.; *Service Is Properly Checking the Installation* — John Hosford, National Assn. of Domestic & Farm Pump Mfrs., Chicago; *Service Any Driller Should Be Expected to Render*—A. C. BeVier, Franklin Electric Co., Bluffton, Ind.; *How a Well Driller Can Set Up a Submersible Service Shop*—J. T. Anderson, Morris, Ill.; and *Mistakes to be Avoided During Installation of Industrial-Type Submersibles* —(Film furnished by Byron Jackson Co.). R. W. Lewis, of Fairbanks, Morse & Co., served as moderator for the session.

" 'Oh, no!' he said, 'I don't need a well driller. I can drive this shallow well easily myself!' "

Another well-attended conference, this one devoted to well drilling methods, was also held at the Skirvin. Here are the subjects discussed at this meeting and the speakers who discussed them: *Cable Tool Drilling**—R. W. Gordon, Bucyrus-Erie Co., South Milwaukee, Wis.; *Jetting and Hollow Rod Drilling*—A. A. Downend, Sanderson-Cyclone Co., Orrville, Ohio; *Direct Rotary Mud Drilling*—E. L. Alexander, George E. Failing Co., Enid, Okla.; *Direct Rotary Air Drilling*—R. A. Yeoman, Joy Mfg. Co., Dallas, Texas; *Reverse Circulation Rotary Drilling*—O. C. Gossett, Winter-Weiss Co., Denver, Colo.; *Auger and Earth Bucket Drilling*—Robert A. Collins, Gus Pech Foundry & Mfg. Co., LeMars, Iowa; and *Down-The-Hole Air Percussion Rotary Drilling* —Edward Yellig, Stardrill-Keystone Co., Beaver Falls, Pa. Moderator for this session was Harold Ruttenberg, also of Stardrill-Keystone Co.

To round out the series of educational programs, two technical sessions were held at the Municipal Auditorium, with Dr. Frank C. Foley, State Geologist from Lawrence, Kans., presiding at the first.

Among the topics covered during this session were: *Groundwater Geology in the Oklahoma City Area; Water Resources Planning in Kansas; Development and Management of Fractured Rock Aquifers;* and *Utilization of Test Drilling in Groundwater Surveys.*

The moderator for the second technical session was H. F. Smith, engineer from the Illinois State Water Survey, Urbana, Ill. The subjects covered during this final session were:

* Copies of Mr. Gordon's talk are available free on request to: The Driller, South Milwaukee, Wis.

Use of Geologic Data in Evaluating Groundwater Availability in Glacial Drift; More on Well Design; Use of Electrical Resistivity Methods in Groundwater Studies; and *Preliminary Report on a Laboratory Study of the Efficiency of Wells.*

Social Activities Described

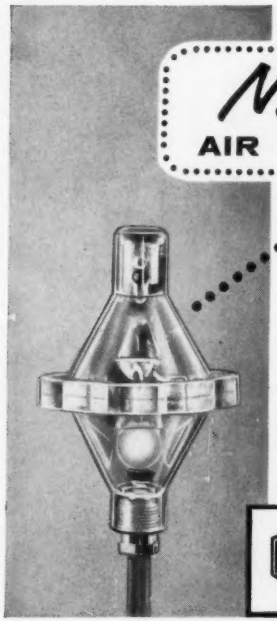
A convention could become pretty tiring if all activities taking place were devoted strictly to business. The well-planned social program, however, prevented boredom from setting in. A get-acquainted party provided a splendid opportunity for meeting old friends and cultivating new ones, too.

The annual banquet and dance was held on Thursday evening, Nov. 8, in the Persian Room of the Skirvin Tower Hotel. Designed to convey the adventure and color of the ancient Persian culture, the room provided a pleasant setting for the feasting drillers, manufacturers, suppliers and their wives and families.

Keynote speaker of the evening was J. Lewis Powell, who is on the staff of the Assistant Secretary of Defense (Supply and Logistics). In his speech, *The Collapse of Time,* he showed that, to keep ourselves in front of the snowballing technology which is rapidly changing the dimensions of the business and geographical world in which we live, we must make corresponding changes in our thinking habits. The colored chalk sketches he drew on a large blackboard to illustrate points he made at various times during his speech brought amused chuckles and frequent outbursts of laughter from his enrapt audience.

At the annual business meeting, the following officers were elected to head

(Continued on page 33)



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AIR VOLUME CONTROL

FITS ALL TANK SIZES
THROUGH 82 GALLONS

- For use with all shallow well and deep well jet pumps.
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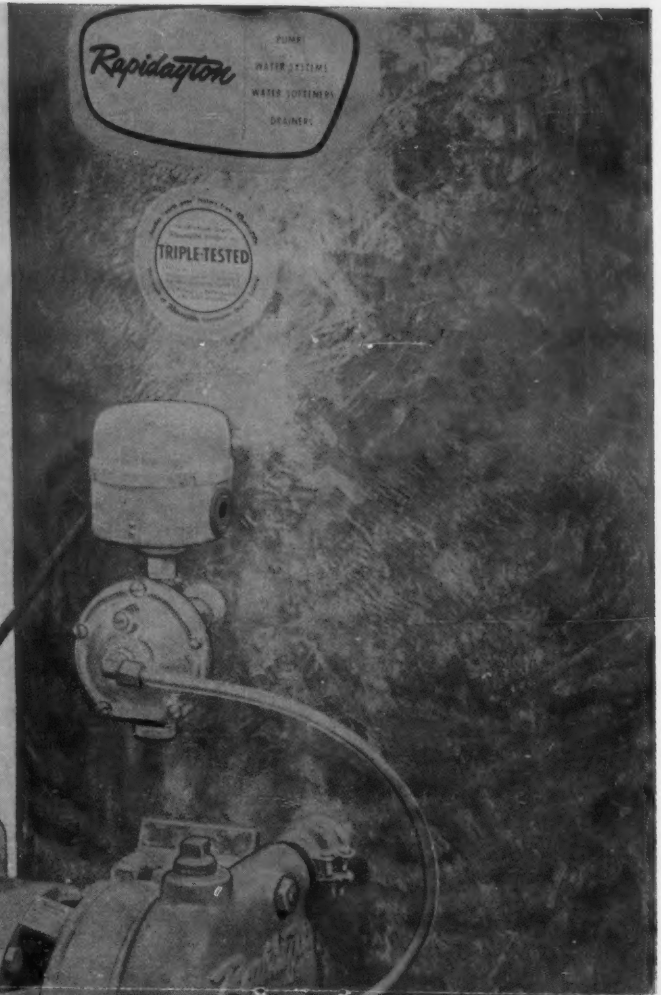
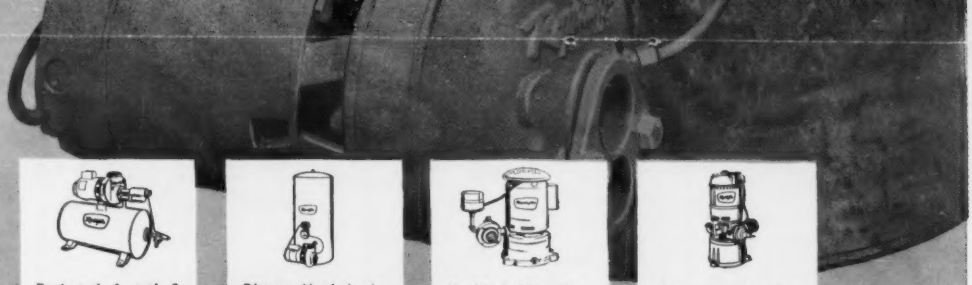


Rapidayton is the shortest, quickest way to a really profitable pump business. See your wholesaler today or write us for complete information.



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Big vertical tanks which meet FHA requirements.

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2
SUBMERSIBLE
0-500 FEET

Simplified 2-wire models for 4" or larger wells.

Also 3-wire submersibles for both 4" and 6" wells.

3
RECIPROCATING
0-200 FEET

Packaged shallow well models, with 13 & 30 gallon tanks.

Deep well working head has 6" stroke, goes down to 200 ft.

The Twin* Champion

A fabulous Rapidayton profitmaker! Covers at least 85 to 90% of the entire jet pump market. The Twin is a power-packed two-stage packaged convertible with horizontal or vertical tank. Pumps full capacity at 40 lbs. pressure. Goes down to 150 ft., delivers up to 1250 g.p.h. The No. 1 all-purpose system in America today. See your wholesaler or write today for complete Rapidayton catalog.

*TRADEMARK

Rapidayton
division

The Tait Manufacturing Company, Dayton 1, Ohio
Established 1908 as The Dayton Pump and Manufacturing Co.

©TAIT MFG. CO. 1959

News of the month

Bucyrus-Erie Elects Robert G. Allen Executive Vice-President

Robert G. Allen has been elected executive vice-president of Bucyrus-Erie Co., South Milwaukee (Wis.) excavator and drill manufacturer. He will report to W. L. Litle, president.

Allen joined Bucyrus-Erie last July as a vice-president. In August, he was appointed executive assistant to the president and placed in charge of all manufacturing operations.

Before coming to Bucyrus-Erie, Allen had been president of the Pesco Products and Wooster divisions of the Borg-Warner Corp. at Bedford and Wooster, Ohio.

Allen represented Pennsylvania's 28th district in Congress for two terms, from 1937-'41. He served on the foreign affairs committee. He was a lieutenant colonel in the ordnance department during World War II.

Allen was one of the first to be enrolled in the special executives' course at Harvard University's School of Business Administration. He began his business career in his native Boston, Mass., at the Walworth Co. He later was president of the Duff-Norton Mfg. Co., Pittsburgh, Pa.

The Allen family resides in Milwaukee.

State Driller Associations Schedule 1958 Conventions

Following is a list of various state water well drilling conventions which are scheduled to be held early in 1958:

Indiana—Jan. 23-24
Indianapolis—Claypool Hotel
Illinois—Jan. 29-30-31
Peoria—Pere Marquette Hotel
Wisconsin—Feb. 4-5-6
Green Bay—Hotel Northland
Iowa—Feb. 13-14
Mason City—Hotel Hanford

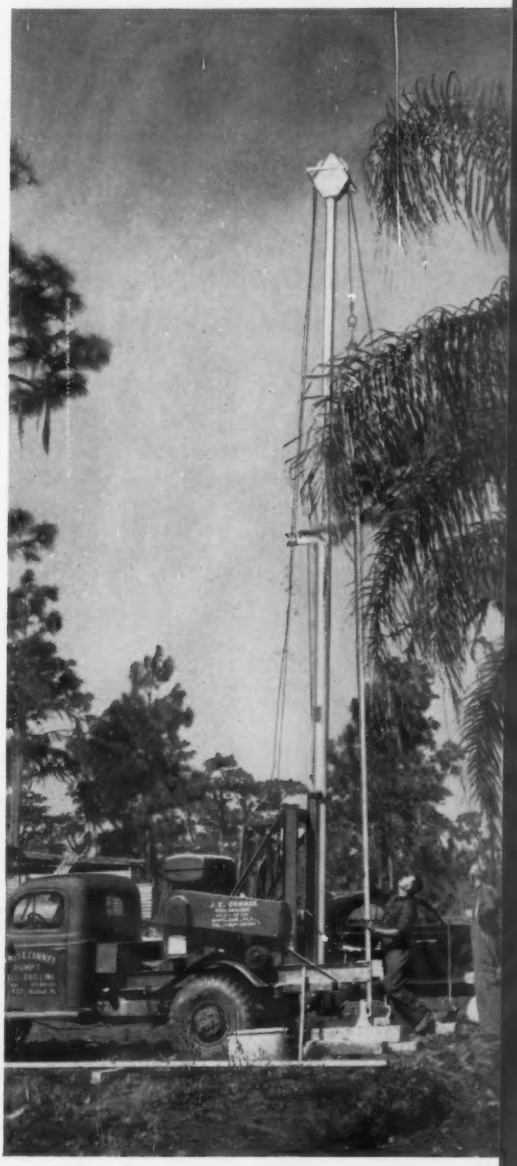
When information concerning other forthcoming conventions is received, it will appear in this section of *The Driller.*

U. S. Water Needs Expected To Double by 1975

Our water supply has remained constant while water needs for human use have pyramided with our growing population, reports the Soil Conservation Service. From 1900 to 1950, while U.S. population doubled, total water use, other than for power, increased fourfold. By 1955, water use was up another 21% and water needs

Owner proves 1-W's fast drilling pace

James E. Conner, of Maitland, Fla., has used his Bucyrus-Erie 1-W to drill profitably by both the hollow rod and cable tool methods. He recently changed over completely to cable tools. He runs 2-, 2½-, 3-, and 4-in. tools on his 1-W and has rodded as deep as 171 feet and cabled tooled to 250 feet. The average depth of his wells is 120 feet in fairly consistent formations which include sand, clay, and rock. Water is usually found in the third or fourth rock layer, in limestone.



And how he pounds 'em down!

Conner thinks nothing of drilling the first 40 feet on a new well in one hour. Then, the going usually gets rough. Still, he gets from 80 to 100 feet of hole in the first 8-hr. day of each job.

You, too, can drill profitably with the versatile 1-W. It sets a rapid pace: quick job-to-job moves (the rig can be mounted on ¾- or 1-ton truck or two-wheel trailer); snappy, simple setups; and fast changeovers from hollow rod to cable tool, jetting, or rotary drilling method. Get all the facts on the 1-W from your nearby distributor. 91W57C

BUCYRUS ERIE

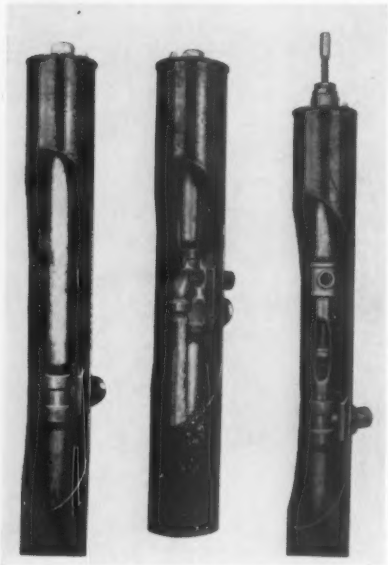
SOUTH MILWAUKEE, WISCONSIN

FIRST with the FINEST in Water Well Drills

are expected to double again by 1975.

The average daily use of water for all purposes increased from 600 gallons per capita in 1900 to 1,100 gallons in 1950 and 1,300 in 1955. By 1975, the country will be using 1,800 gallons of water daily for every man, woman and child.

New Pitless Adaptor Eliminates Bulky Set Lengths



Cut-aways illustrate use of Martinson underground discharge couplings in (L to R), submersible and shallow well pump installation, deep well ejector pump installation and deep well working head installation.

An underground discharge coupling which, according to the company, eliminates the need for bulky set lengths has been developed by Martinson Mfg. Co., Estherville, Iowa.

The design of this pitless adaptor makes it easily installed with no special equipment and only a small amount of digging, according to the manufacturer.

The Martinson all-bronze coupling weighs seven to 11 pounds. It is installed in the regular well casing below the frost line, but the casing itself extends to the surface.

The two-piece coupling is tapered to slide in and out easily. Thus, the drop pipe can be pulled from above with no digging necessary. And, since the regular well casing is used, no special depth settings are required and it can be installed wherever the frost line dictates.

The couplings are available in 1-in. through 2-in. sizes for submersible and shallow well pump installations, 1¼-in. x 1-in. and 1¼-in. x 1½-in. for ejector pumps, and 1¼-in. through 2-in. for working head installations.

Where state dairy laws require it, the Martinson Co. has couplings available with set lengths.

For complete information, write to Martinson Mfg. Co., Dept. TD, Estherville, Iowa.

Pre-Fabricated Wire Rope Assemblies Announced by Macwhyte Co.

To save time and reduce costs, it is no longer necessary to make up cable assemblies by hand with splicing, clipping, etc., according to a report released recently by Macwhyte Co.

Precision lengths of wire rope, with fittings permanently attached by swaging, are now pre-fabricated to order by specialists. Assemblies are made ready for installation on equipment and can be carried in stock, thus assuring that the correct fittings are attached and that the correct length of wire rope is used.

An announcement showing exam-

ples of prominent manufacturers' equipment using the pre-fabricated *Safe-Lock* Assemblies is contained in Macwhyte's publication, *Ropeology*, No. 50. A copy is available on request to Macwhyte Co., Fabricated Products Sales, Kenosha, Wis.

McDonald Adds New Sumersible Pump Line

A new line of submersible pumps has been added to the water system line of the A. Y. McDonald Mfg. Co. of Dubuque, Iowa, according to a recent company announcement.

These submersible pumps are identified as McDonald Series 6000 and are available in 16 sizes, with horsepower ranging from ⅓ to 3 hp. The Series 6000 submersibles are divided into three sub-series: Series "A", delivering seven gpm; Series "B", 10 gpm; Series "C", 16 gpm. The pumps will operate at depths up to 600 feet.

Construction consists of a series of housed bronze impellers mounted on a stainless steel shaft that is connected to the motor through a precision stainless steel coupling. The number of impellers depends on the total lift and pressure required. The complete pump is enclosed in a tamper-proof stainless steel jacket. A bronze automatic check valve is built into the pump head. The pump and motor

(Continued on page 31)

NO LEAKY SEAMS

COMPLETE PROTECTION WITH WELL-MADE TANKS

. . . and the WELL-MADE SAFETY BAND OF 1⅛" reinforced steel protects the tank against corrosion at its most vulnerable point.

Compare these **WELL-MADE EXCLUSIVES**

- **RIGID WELD SHELL SPUDS**—Won't work loose.
- **EXTRUDED HEAD SPUDS**—Protect against leakers.
- **HEAD & BOTTOM OFFSET**—Inserted under pressure, locked in, submerged arc welded.
- **PRESSURE GAUGE TAPPING**—for easy—speedy—inexpensive hook-up.
- **MID-POINT AIR VOLUME CONTROL TAPPING**—for more water—fewer pump starts.
- **1⅛" REINFORCED SAFETY BAND**—Protection against corrosion.
- **"HI-SPEC" GALVANIZED INSIDE & OUTSIDE**—Insures maximum zinc thickness.
- **MANUFACTURED IN UNIVERSAL SERIES**—Adaptable for all installations.
- **UNCONDITIONALLY GUARANTEED**

See your dealer or write
Metal Coating Corporation
1215 West 37th Street
Chicago 9, Illinois

ALWAYS LOOK FOR THE WELL-MADE SAFETY BAND

from the MAILBAG

This page is open to any of our readers having questions to ask relating to drilling, driving pipe, dressing bits, etc. All letters will be answered promptly by experienced drillers and engineers, who are qualified to give intelligent advice on these subjects. We will publish as many letters of general interest as space will permit. Address: The Driller, South Milwaukee, Wis.

Procedure for Blasting of Rock

Dear Sir:

I would like some information on the blasting of rock. There have been several cases in which I have hit large boulders lying in a clay or drift formation. They usually cause considerable trouble.

What I would like to know is how to set the blast off, how to make sure the dynamite is on the rock, how much charge to use, and what safety precautions to take?

H.R.P. Nebraska

Dear Sir:

If you are unfamiliar with the handling of explosives, we would suggest that you have someone instruct you, or purchase some good handbook on the subject. Most explosive manufacturers publish such handbooks on general blasting with dynamite.

If the few fundamental principles of the action of explosives are understood and the explosives handled in a careful and intelligent manner, there need be no fear of accidents. Naturally, no chances should be taken.

If a boulder is struck fairly on top, it will be necessary to drill through it to determine its thickness. Then, split the boulder by using dynamite as follows:

After a hole is drilled through the boulder and its thickness determined, fill up the hole with fine sand until the bottom of the hole comes about one foot below the center of the boulder. Place two to 20 pounds of 40 to 60% dynamite in the hole.

The amount of explosives used depends on the size of the boulder, but unless the boulder is more than three feet thick, three to four pounds will usually be ample.

After the dynamite has been placed, it should be covered with two or three feet of sand and the hole filled with water for at least 25 feet. The water serves as a tamping, thus confining the explosion and making it more powerful.

If the boulder is encountered while drilling three or four feet ahead of the pipe, the charge can be fired without fear of injuring the end of the pipe. But, if the pipe is seated on top of rock, it is necessary, of course, to pull it back four or five feet.

Use Firing Battery

The dynamite can be fired by the use of a firing battery. In this way, it is possible to place the explosive at just the right point and then fire it when everything is ready.

Care must be taken in pulling back the pipe to make sure the explosive is not disarranged and that the sand which was poured at the top will hold it firmly in place. After the charge has been exploded, lower the tools into the hole to determine the condition of same.

If rock has been split, drive pipe completely through it, using as light

a driving blow as possible. The reason for driving the pipe completely through is to shut off any pieces of rock which may have been torn from the boulder and which might fall on the tools, wedging them in the hole.

If boulders are struck in such a manner that the tools do not strike them squarely but glance off at the side, they can be eliminated by shooting them out of the way. Four or five pounds of 40% dynamite, placed in the hole opposite the boulder and fired, will usually force the boulder far enough out of the way to allow the pipe to pass.

In those parts of the country covered by glacial drifts or valleys between steep cliffs, boulders are often so numerous as to form "nests" in which the boulders are so interlocked as to make it impossible to drive pipe through them. These nests can be spread apart by firing repeated charges of explosives.

Encounters Trouble On Fishing Job

Gentlemen:

Perhaps you can help us with a problem we have encountered on a well we are currently drilling.

The drill stem is down 142 feet in a 4-in. hole. The boys boot-jacked the stem off in the hole, then started a horn socket down to retrieve it. No jars were used. They had trouble getting the horn socket down, so they took a bumper and tried to knock it down. They cut the rope off and the bumper wedged. A slip socket was then used, catching the bumper and tearing it up. The slips also are now down in the hole. It is 50 to 60 feet to limestone. The casing has been pulled out.

We would appreciate some information on how to go about getting these tools out of the hole.

L.J.C. Ind.

Dear Sir:

The first mistake was running a horn socket too big for the hole and running it on a string of tools with-

GMC 6x6 NAMED ARMY'S BEST ALL-AROUND TRUCK!

UNUSED!
GUARANTEED! NEW-TRUCK PERFORMANCE!

- **Extra Pull Power!**
- **Double Traction for Mud!**
- **Special "Off Road" Design!**

From Government Storage—these all-wheel-drive GMC 2½ ton 6x6's were specially designed by the U. S. Army to take the roughest terrain in all kinds of weather. These unused 6x6's can do the same for you in all your truck jobs; whether in a muddy field or along a super highway.

Processed — by Memphis Equipment Company — down to the last bolt to assure you of receiving the finest unused GMC 2½ ton 6x6 trucks available today. Parts available anywhere in the nation.

For specifications, prices, delivery write, wire or phone collect
JAckson 5-7841
MILTON Y. TOOMBS, JR.
Sales Manager

MEMPHIS EQUIPMENT Company
ARMY TRUCKS • PARTS
CONSTRUCTION EQUIPMENT
766 SO. THIRD STREET • MEMPHIS, TENN.

CLIP! MAIL TODAY!

Milton Y. Toombs, Jr., Sales Manager
Memphis Equipment Company
766 S. Third St. Memphis, Tennessee

Please rush me complete details on your bargain-buy GMC 6x6 army truck!

Name_____
Company_____
Address_____
City_____ State_____

out jars. In all likelihood, your men would have recovered the stem had they used a horn socket which would have freely entered the 4-in. hole and run it on a string of tools made up of a set of fishing jars and a short stem and rope socket.

In this case, when the horn socket stuck, they got themselves into more trouble by trying to drive it down with a jar bumper, for even though they did make contact with the stem by driving the horn socket onto it, they would have been unable to pull out the tools with no jars in the string. When they pulled the pipe out, they made things worse, because loose material can easily lodge on top of or alongside the tools in the hole.

The loss of the slips on top of everything else will probably cause enough wedging in the hole that it may be impossible to remove any of the lost tools.

In an attempt to recover the lost tools, it might be wise to first carefully reinstall the 4-in. pipe in the hole and hope that material is not pushed down over them. Then, with a rope socket, short stem, set of fishing jars, and a horn socket, driven down over the bumper to assure a firm catch, enough hold might be offered to permit some upward bumping to recover that tool.

Perhaps, instead of a horn socket, you could use a corrugated friction socket, but, in either case, the inside barrel measurement should be of such dimensions as to permit a firm catch on whatever size the top of the bumper may be. Perhaps the bumper can be recovered. If so, you could then go after the rope socket, which is attached to the horn socket, by using a combination socket fitted with slips to catch the 1-in. neck. But here again you should by all means have a set of jars in the string.

In the event the horn socket has been driven sufficiently over the stem to permit a hold, perhaps you can bump out the whole string of lost tools. We venture to say that you will have to bump out for the whole distance, because the horn socket had to be driven down and, in the event it did contact the stem, the chances are it has been spread somewhat to make matters worse for recovery.

Sometimes it is cheaper to take the loss of the hole and tools and start all over again. In this case, if your knowledge of sizes of the tools lost in the hole is not accurate, and the tools you use to recover them are not built for accurate-measure recovery, we would think you would be better off in the long run to abandon this hole and start another.

If you want to go to the trouble to build a horn socket or some such tool that will fit an unknown size of jar bumper head, you could run an impression block to determine its size. In any event, the fact that the horn socket lost in the hole is obviously too large for easy recovery by straight line pull, plus the fact that there are lost slips on top, make it somewhat problematical for recovery of the tools.

One thing is sure; if you continue to fish, you may spend considerable time at the job, with no assurance of success. In any case, never go into the hole with anything minus a set of fishing jars, for a straight line pull on any tool will simply lead to more trouble.

The additional cost of a set of jars, stem and another fishing socket would not appear to be worthwhile, and, all things considered, it seems to us that you would be better off to drill another well.

News...

(Continued from page 27)

units are both water-cooled and water-lubricated. Motors are heavy-duty capacitor type, hermetically sealed. The pumps are designed for use in 4-in. wells and larger.

New Well Owner Devises Unique Method for Completing Pump Installation

If you ever find yourself faced with a manpower shortage, you might consider putting mice to work for you. From the *Massena* (N.Y.) *Observer* comes this report of a new well owner who did just that.

"Mr. Wagner had a well drilled on his property recently by Robert Wood of Industrial & Domestic Drilling Co. Mr. Wagner decided to buy his pump from Mr. Wood but to do his own installation.

"As the well was some distance from his home, Mr. Wagner ran into a snag. He had two pipes running from the well to the house; one through which the water runs and another through which he wanted to run his electrical connection. The problem was just this: How do you get an electrical wire through such a long pipe?

"Studying the problem for awhile, Mr. Wagner hit upon a novel idea. First he built a very special kind of mouse trap (this may eventually be patented so we can't describe it in detail). Then he took it with him when he went to work. The trap proved very effective in catching mice and soon he'd caught five. One of them

White Flomatic Valves

If you want your pumps to produce with maximum efficiency and a minimum of service calls, be sure to use Flomatic valves. They're precision made of high quality bronze, with twenty years' experience behind them.

If your jobber can't supply you, write us.

Foot Valve
WHITE FLOMATIC
Check Valve

WHITE FLOMATIC CORPORATION Hoosick Falls, New York

was just the right size to run through the electrical connection pipe.

"When he arrived home from work, Mr. Wagner then put into operation the final phase of his ingenious idea. First he tied the end of a long string around the middle of the mouse that was just the right size and then placed the mouse in one end of the pipe. Then he started pouring water through the pipe to make the mouse run through to the very end. When Mr. Mouse appeared at the other end of the pipe, with the string still on him, Mr. Wagner merely picked up the string and pulled the electrical wire through.

"Mr. Mouse? Oh yes, the string was removed from his middle and he went on his merry way. His salary? A giant piece of cheese, naturally."

Byron Jackson Establishes New District Office in Alabama

Announcement has been made of the opening of a new district office in Birmingham, Ala., by Byron Jackson Pumps, Inc., a subsidiary of Borg-Warner Corp.

The office, located at 2031 Ninth Ave. South, is under the direction of E. J. Dailey. It combines sales and application assistance on the full line of Byron Jackson centrifugal pumps.

Tait Produces Submersible Pump Line Catalog

The Commander Div. of the Tait Mfg. Co., Dayton 1, Ohio, has produced a new catalog (No. 958), showing a complete line of 2-wire and 3-wire submersible pumps and water systems.

Built for the big-volume heart of the market, the 11 models of the 2-wire Commander submersibles meet the needs of all domestic wells 4-in. or larger, with depths from 0 to 360 feet. Motor sizes range from ¼ through 1-hp.

The 3-wire models (for both 4-in. and 6-in. wells) reach to 500 feet, and motor sizes range from ½ through 3 hp.

Odenheimer...

(Continued from page 15)

operates a Bucyrus-Erie 22-W for Odenheimer, has had 11 years' experience in water well drilling and spent four more years blast hole drilling. Prior to that, he worked as a crane and shovel operator for a steel works and coal mine.

When interviewed, he was deepening a 6-in. well he originally put down about a year ago. The well had been started at 8-in. to 75 feet, then was reduced to 6-in. through the limestone to a completion depth of 277 feet. It pumped eight gpm, which, while providing sufficient water at that time, is no longer enough to meet the increased demands of a Peter Pan Diner along heavily traveled U.S. 22-Allentown Expressway. The well at present is down 388 feet, with an expected completion depth of a little over 400 feet.

Bley had just come off a 6-in., 60-ft. deep sewage disposal sink hole for a private home near the Odenheimer shop. On another well in Frackville, which was to provide water for coal-washing, Bley deepened a 6-in., 236-ft. well to 466 feet. It was his deepest well to date.

"On my fastest job," enthused Bley, "I set up the rig, drove casing and drilled 80 feet in one day. But drilling comes slow and tough, too. My toughest job cropped up on a well I

drilled last year. It wasn't bad at first, when I was drilling through clay. Then I hit a slanting, hard limestone stratum; must've been a 45-degree slant. Every two feet I drilled, the tools would stop turning. Then I'd have to put a charge of dynamite in—

(Continued on page 38)

NWWA Exposition . . .

(Continued from page 21)

the NWWA for the coming year: president—Tom Renner, Minneapolis, Minn.; president-elect—Floyd Oliver, Greeley, Colo.; secretary—Owen Lininger, Greenville, Pa.; treasurer—E. W. Henkle, Garden City, Kans.; and vice-presidents — Robert L. Clark, Stockton, Calif., H. F. Smith, Urbana, Ill., and Karl Elliott, Parkersburg, W. Va.

There was plenty to do for the ladies, too. The East Room of the Skirvin Hotel was set aside as headquarters for the Women's Division. At meetings they attended at various times during the exposition, they listened to talks on bookkeeping and record keeping, especially as it applies to well drilling, and other informative topics. They also made tours of interesting points in Oklahoma City. Their main social event was a luncheon held on Wednesday, Nov. 6.

By the time the 1957 Exposition drew to a close on Friday, Nov. 9, the convention visitors, somewhat weary after a stiff schedule of educational meetings and talks and a more-than-ample round of social activities, left Oklahoma City for their homes in all parts of the country. They had not seen any stampedes or stagecoaches, but they had learned a lot and made many new friends during their week-long stay.

No Better Bit— even in the Toughest Formations

Thousands of drillers everywhere depend on Bucyrus-Erie bits to put down hole, even in the toughest formations.

The reasons behind this outstanding preference are many. Take the steels these bits are made of. Every heat is triple tested in the company's modern metallurgical laboratory. Skillfully cropped high carbon steel provides strength and long-wearing quality. Sharp cutting edges really bite in with every drop of the tools. Deep, wide water courses allow more cuttings to accumulate, reducing bailing operations. Extra long body sections give you more sharpenings per bit.

Next time you need a bit, try a Bucyrus-Erie. You too will depend on it for economical, long life performance. 12A57C

BUCYRUS ERIE

SOUTH MILWAUKEE, WISCONSIN

IT'S "IN THE BAG" IN '58 FOR FAIRBANKS-MORSE PUMP DEALERS!

Coming Your Way Soon!

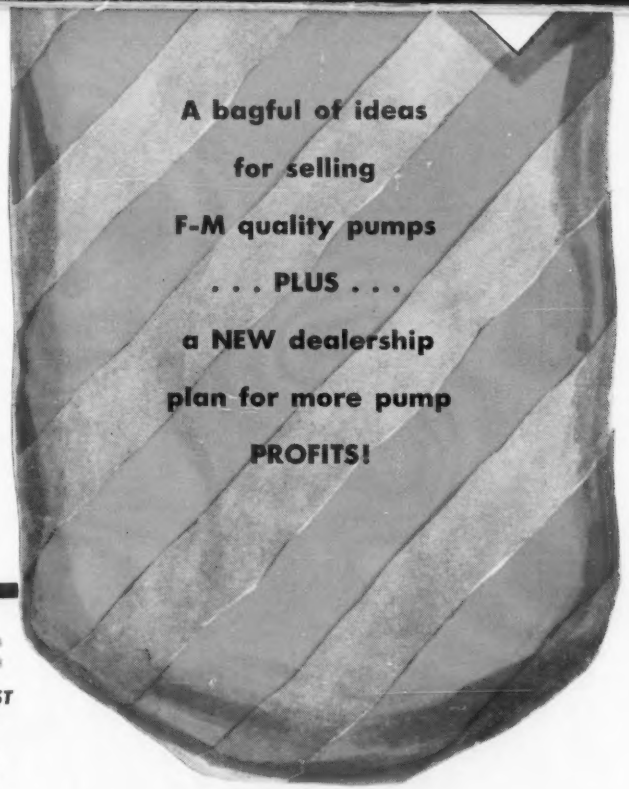
FAIRBANKS-MORSE

has a brand-new, *qualified dealer sales and service plan!*

IT'S A HONEY, TOO!

If you can qualify, you're in for the best chance you've ever had, regardless of the pump lines you carry now, to build a full-time pump sales and service business which can show you more sales per year and more profits per sale!

Watch for the Fairbanks-Morse salesman with the striped bag in his hand. He'll be calling on you soon. Fairbanks, Morse & Co., Dealer Div., Chicago 5, Illinois.



FAIRBANKS-MORSE

a name worth remembering when you want the BEST

PUMPS • WATER SYSTEMS • GENERATING SETS • MAGNETOS
MOTORS • SCALES • DIESEL LOCOMOTIVES AND ENGINES

BITS *from the wit sharpener*

It was the little boy's first day at school and the teacher was making out his registration card. "What is your father's name?" she asked.

"Daddy," replied the child.

"Yes, but what does your mother call him?"

"She doesn't call him anything. She likes him."

Guy: "May I take you home?"
Gal: "Yes, where do you live?"

The snow was falling softly. There was a definite wintertime scene being set. Poetically the young man spoke as he tucked his girl into the car:

"Winter draws on."

Girl: "Is that any of your business?"

A doctor had an urgent phone call from a gentleman saying his small son had swallowed his fountain pen.

"All right! I'll come at once," replied the doctor, "but what are you doing in the meantime?"

Whereto came the unexpected answer, "Using a pencil."

"I want a corset for my wife."
"What bust?" asked the clerk.
"Nothing! It just wore out."

Gramps was getting married for the second time. Asked why he was marrying a nifty chorus girl from the city, instead of a woman of his own age, Gramps said, "Well, son, I'd a sight ruther smell perfume than liniment!"

She: "I'm sorry I slapped you. I thought you were trying to get my Sunday School pin."

Seated side-by-side in a tavern, the two men were busily partaking of the intoxicating brew.

"Hank," said one, "I notice that you drink quite a lot. Does your tongue burn after you've had quite a bit?"

Hank pondered the question, then drawled:

"Well, I don't rightly know, Joe. I've never been drunk enough to light it."

She wore her stockings inside out all through the summer heat; she said it always cooled her off to turn the hose on her feet.

The Irishman was relating his adventures in the jungle. "Ammunition, food and whiskey had run out," he said, "and we were all parched with thirst."

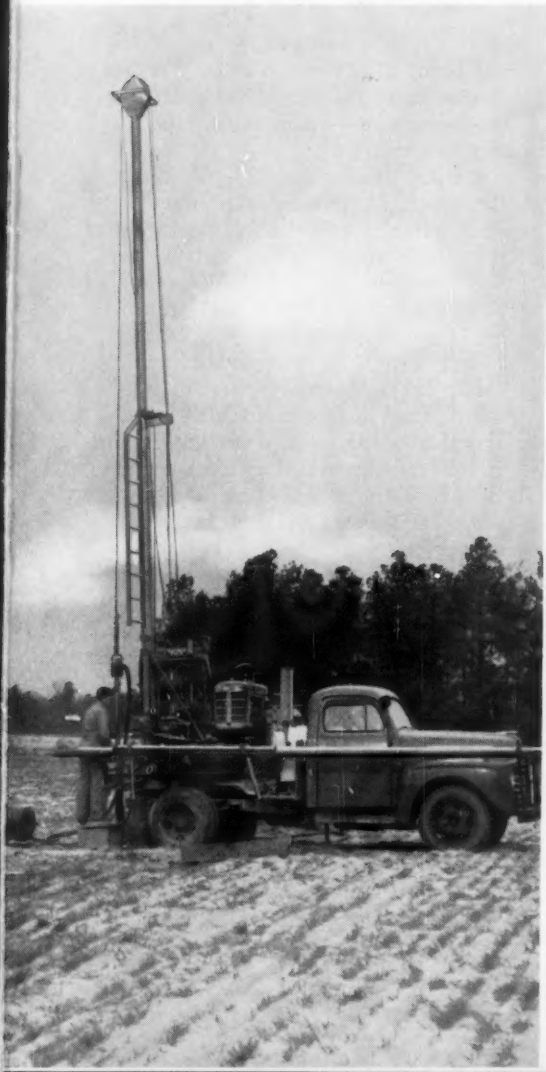
"But wasn't there any water?"

"Sure, but it was no time to be thinking of cleanliness."

He asked for a seat on the next flight to the moon.

"I'm sorry, sir," said the passenger agent. "All flights to the moon have been cancelled for a few days. The moon is full right now."

LET 1-W SPEED BOOST YOUR PROFITS



THIS compact rig can set a fast, busy pace on your small well work.

Job-to-job moves are roadspeed-quick with the 1-W mounted on a truck or on a 2-wheel trailer attached to a tool truck. Setups are snappy and simple, featuring a power-raised telescoping tubular derrick that can be extended in less than a minute. Changeovers to any of four drilling methods are made rapidly, and drilling is completed in a hurry, *hydraulically.*

The 1-W's smooth, hydraulic spudding motion permits free fall of tools and immediate selection of desired stroke length from 8 to 24 inches *while drilling.* The hammer reel is designed to let you drill and drive casing simultaneously as well as to bump back casing.

In addition to 4-way drilling, the lightweight rig is ideal for test hole and well servicing work. Check the brief specifications; then write us for the complete 1-W story. 93W57C

BUCYRUS ERIE

CABLE TOOL 2- to 4-in. wells; 315- to 225-ft. depth; 600-lb. tool capacity.

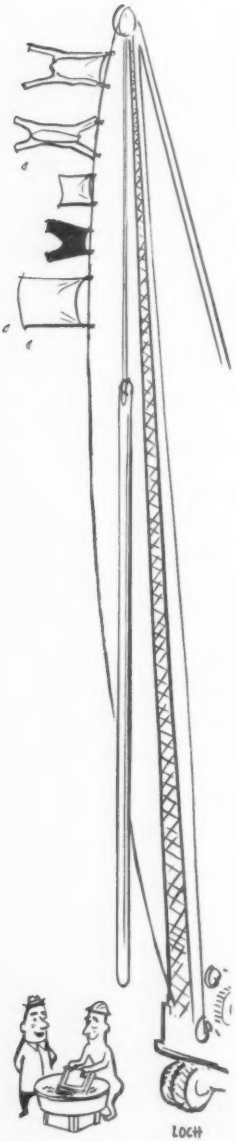
HOLLOW ROD 2- to 3-in. wells; 350- to 250-ft. depth; 860-lb. tool capacity.

JETTING 2- to 4-in. wells; 350- to 200-ft. depth; 845-lb. tool capacity.

ROTARY 3- to 4½-in. and 4½- to 6-in. wells; 250- to 200-ft. depth; 930-lb. tool capacity.

BUCYRUS-ERIE COMPANY South Milwaukee, Wis.

First with the Finest in Water Well Drills



"I couldn't help noticing that you struck water already."

Odenheimer...

(Continued from page 33)

about five or six sticks of 60% gel—and blast. This went on every 2 or 3 feet for about 100 feet. I had to measure everything—wiring, shot, and so forth—each time."

Harold Shellhamer, 59, of West Catasauqua, a veteran with over 42 years' experience in drilling, spent 38 years with Biery. When visited, he was working in South Whitehall Township, ¾-mi. from Allentown. His Bucyrus-Erie 22-W was at the 154-ft. depth on a domestic well. Oddly enough, and typical of the rolling formations around Allentown, a well 500 feet away was completed at 218 feet; another, a city block away, yielded water at 130 feet, and just across the street, a well was bottomed at over 300 feet.

Greatest Flow Described

Shellhamer's greatest flowing well for Odenheimer was a 12-in., 400-ft. industrial well for a Cassilio Redi-Mix Concrete plant. It pumped 500 gpm of water for use in a sand-washing pit. Only 28 feet of casing were needed here, as the balance of drilling was in red rock and black or trap rock.

With Biery, typical wells drilled by Shellhamer varied from shallow wells, like an 8-in., 200-ft. well to deep drilling, like a 6-in., 629-ft. well.

Along with the older drillers, Odenheimer has a couple of comparative youngsters in Edgar Christ, 31, of New Tripoli, and Franklin Yenser, 34, of Emmaus, both of whom operate 22-Ws.

Yenser, who was with Biery for seven years, joined the Odenheimer firm in 1953. When *The Driller* stopped by, he was drilling a 6-in.

well for a home in Hanover Township, north of Bethlehem. His 22-W was at a depth of 62 feet, the first 45 feet in clay, the rest in hard limestone. Yenser had to drive down 62 feet of casing, however, to shut off a dry crevice.

He recalled one job which took him all winter to complete—from November of 1955 to March, 1956. He had to sharpen four or five 8-in. bits per day while drilling a 205-ft. deep well, all but 20 feet through granite. And after all the extra work, it yielded a poor 1 gpm and was abandoned.

Christ's 2½ years with Odenheimer has been spent about 50-50 as a helper and driller. When interviewed on the job, his 22-W was at the 121-ft. depth on a well for a newly-built suburban home. He had just finished his seventh well with the new 22-W—a 6-in., 227-ft. deep home well that pumped 15 gpm.

In addition to the five Bucyrus-Erie drills, Odenheimer keeps a pair of old Keystone rigs busy. They are operated by Samuel Rogers and Jay Herman.

He also owns nine trucks, which are used for hauling pipe and pumping equipment and for a variety of servicing work. They include: a 1953 Dodge (4-ton); 1955 Ford (1-ton); 1949 Dodge (2½-ton); 1947 Dodge (2-ton, flat body); 1953 Dodge (1½-ton, dual-wheel pickup); 1954 Dodge (2-ton, 4-wheel drive Power Wagon); 1951 Dodge (½-ton pickup); 1950 GMC (3-ton); and a 1949 White Dump truck.

The Odenheimer firm uses mostly submersible pumps from such manu-

(Continued on page 42)

DON'T SPECULATE

Pump Handle Pete says:

"I shore go along with Mark Twain when he says there are two times in a man's life when he should not speculate: when he can't afford it, and when he can."

And it's the same with choosing, buying or recommending a water well system — it's never the time or the place to speculate.

For the rancher, farmer, housewife, industry or community, water is too vital to be gambled with. That's why more and more smart drillers are standardizing on JENSEN AUTOMATIC WATER SYSTEMS. Reliability proved by 39 years' experience. Jensens are easy to install, cheap to operate . . . (afford a good profit and trouble-free service) . . . just to name a few of the reasons why you should investigate Jensens.

MODEL 50-DC

JENSEN WATER SYSTEMS

Made by JENSEN BROS. MFG. CO., INC., Coffeyville, Kansas

BARGAIN *counter*

All advertising in this section is payable in advance. Enclose your check or money order with copy. Rate: $1.00 per line. Minimum charge $4.00. No discounts; no commissions. Count your own copy to avoid delay. The average line contains 28 characters (20 characters if all capital letters are used). Count spaces and punctuation as one character each. Allow 10 characters for box number if blind advertisement is desired. Closing date — 5th of preceding month. Example — January issue closes December 5th. Be sure to address separate inquiries to each advertiser by using the correct box numbers. Mail Box inquiries care of THE DRILLER, South Milwaukee, Wis.

DRILLS FOR SALE

22-W 1948 model on GMC 6 x 6. 6-cyl. Hercules. 50 Keystone. 1948 model on GMC 6 x 6. Buda motor. Casing reel. Both with power derrick, tool guide and tower braces. Cables and tools if wanted. All in excellent condition. Rebuilt motors on both. Leonard Drilling Corp., White Marsh, Maryland. Phone: Edgewater 5-8310.

1500 Failing rotary drill, complete with water truck and drill pipe, ready to go to work. Box 706

55 Speedstar, 2 years old, mounted on 1½-ton Ford truck, casing reel, starter and catheads, drilling and sand lines and full string of 6" tools; also 1949 2-ton Dodge service truck, with water tank and misc. tools.

55 Speedstar, 1 year old, mounted on 1½-ton Chevrolet truck, casing reel, starter, catheads and spooling device, drilling and sand lines and complete string of 6" tools; also misc. tools. F. J. Bollhagen, Rt. 1, Nashotah, Wis. Phone Oconomowoc, Logan 7-2384.

For Sale: 1000-ft. all-hydraulic rotary machine driven by heavy-duty Ford 6 motor, 4 x 5 mud pump, mounted on 6 x 6 Reo truck. In excellent condition. Kenneth Thompson, Bicknell, Indiana. Phone: 34.

DRILLS FOR SALE

Bucyrus-Erie 22-W, mounted on 1951 Chevrolet 2-ton truck; complete with starter, sand and drilling cables and strings of 6" and 8" tools, catwalks; also 1949 1½-ton Ford service truck, with 300 gal. water tank and misc. tools.

Bucyrus-Erie 20-W, 2 years old, mounted on 1949 Dodge 1½-ton cab-over-engine truck; complete with starter, drilling and sand lines and full string of 6" tools, catwalks and misc. tools. Gus Beyer, Merton, Wis. Phone Merton 76.

Model 42-T, International diesel powered, crawler mounted, complete with drilling and fishing tools for 9" holes. Good condition. Price: $5000. Albert Meckes, Gilbert, Penn. Phone: OVerbrook 12663 Gilbert, Pa. (near Stroudsburg, Pa.)

One Bucyrus-Erie 20-W with telescopic derrick; mounted on 1950 two-speed axle truck; one drill stem, one swivel socket tool wrench, bailer included; like new.

One Bucyrus-Erie 20-W with one-piece derrick; mounted on 1952 Chevrolet two-speed axle truck; necessary tools and cables with machines; rig and truck like new. Please don't write, phone: Clarence Acker, 3934 South 41st St., Milwaukee 15, Wis. Phone ORchard 2-5667.

50 Keystone special arranged most efficiently. On GMC 10 Wheeler. Priced right. In use daily in Pa. Box 710

Failing rotary rig mounted on a Ford truck; water truck 1250 gal. vacuum tank; tools and bits sizes 4" to 24". Price $5500. Lloid Tyson, Sayre, Oklahoma. Phone: 436.

Trailer mounted 36-L Bucyrus-Erie spudder, air brakes, casing tackle strut, A-frame; Waukesha GK-145 engine and Butane equipment; new crown and shock absorber; 2700' of 1" drill line and 3000' of ½" sand line, 2000' never used; drill 6 years old and in A-1 condition. Price: $15,000, Los Angeles. Paul Neville, Rt. #4, Box 58-G, Saugus, Calif.

New, never used, reverse hydraulic irrigation well drilling machine, mounted on truck, drill stem and bits. Tom Ewalt, Geneva, Nebr.

DRILLS FOR SALE

1—Model 40 Cyclone drill. This drill is a 1952 model. Machine is equipped with 4-cylinder Continental engine, electric starting, power derrick hoist, 500' ⅝" line; 500' ⅜" line. Machine is mounted on 1947 Diamond T truck. Truck has been overhauled and painted. Contact the Buckeye Supply Co., 18 Harrison St., Zanesville, Ohio.

42 Sanderson-Cyclone, four years old, power derrick, cat head, blower, tool guide, rubber shock, on Ford truck, 800' drill and bailer line: $2950. G. E. Miller, Rt. #5, Lawrenceburg, Tenn. Phone SOuth 2-2136.

22-W Bucyrus-Erie drilling machine, equipped with rubber cushion sheaves, casing reel, power derrick hoist, cat heads, 36' telescoping derrick, good drilling cable and sand-line; mounted on good Ford truck with good tires; entire rig and truck newly painted. Tools for 8" and 6" holes. This outfit is in A-1 condition, and ready to go. Price: $4250. Harry H. Fox & Sons, Route 6, Shelbyville, Ind. PHONE Waldron 4181.

71 Stardrill mounted on GMC 6 x 6, perfect condition, complete, tools for 6" holes. Price: $4000. Reich Brothers Mfg. Co., Inc., 1439 Ash St., Terre Haute, Ind.

1 22-W Bucyrus-Erie drill. This machine is approximately 10 years old, but has been dismantled and completely rebuilt. Machine equipped with casing reel, power derrick hoist, and electric starting. Mast is 36' with new interlocking braces. Lines included are 600' ⅝ drilling line, 600' ¾ sand line, and casing line. Tools are a 1½ x 2½ x 16' stem, processor rope socket, and two 4¼ bits. Machine mounted on 1948 k-7 International which is in A-1 condition, with practically new tires. Truck also has cat-walks around whole machine. This whole outfit is priced to sell immediately. Contact Edwin Bushong, Plain City, Ohio.

20-W, one-piece derrick with cables and some tools; new engine installed approximately one year ago; mounted on truck. Inquire Ed Kranz, 5214 W. Villard St., Milwaukee, Wis.

DRILLS FOR SALE

50 Keystone on Int. truck, with tools and lines. For sale or would trade and give cash difference on 24-L. R. Mowrey, Rt. 3, Fort Scott, Kans.

1—#1000 Mayhew, mounted on Ford truck, with 400′ factory built drill rod.
1—Keystone 50, mounted on International truck.
2—drill stems—4″, 6″, 10″ and 12″ bits. Excellent condition. V. E. Slappey, 606 N. Jefferson St., Albany, Ga.

50 Keystone mounted on 6x6 International truck. Complete with 6″ drilling tools and cable.
31 Stone mounted on 1947 Ford truck. Complete with 6″ drill tools. All tools 2¼″x3¼″ API threads. Machines now working. Dave Ash, Lebanon, Tenn. Phone: 248.

22-W Bucyrus-Erie drilling machine, serial #95720; purchased April 1952; equipped with 550′ of ¾″ drilling cable, 600′ of 7/16″ sand line, casing line and casing reel, catheads, power derrick hoist and catwalks around machine; Hercules power unit completely overhauled; machine is mounted on a 1948, 6-cylinder Ford truck, equipped with 8:25 x 20 tires; machine and truck in very good condition. Hoeg & Ames, Inc., Lincoln, Iowa. Phone 106R.

New 71-speed Star mounted on 2-ton Int.; has drilled 19 wells. All latest model equipment including 6″ tools, cost $10,000. Priced to sell. For information write or phone: DU-9-6122. J. L. Walrond, 1006 Homestead Dr., Salem, Va.

Bucyrus-Erie 1-W, serial #114339, mounted on Dodge 6x6, purchased December 1956, like-new condition. Complete combination rig, jetting, cable, rotary and hollow rod tools. Contact Mr. R. Pelton, Pacific Testing Laboratories, 3220 17th Ave. West, Seattle, Washington. Phone GArfield 3610.

Keystone 70 mounted on 1941 GMC 6x6, 6-wheel drive, fully equipped with 6″ tools and lines. Steal this machine and go to work tomorrrow for $2250. Jack N. Boettcher, 885 Shafer Lane, Phone: Spring 27372, Medford, Ore.

One 20-W Bucyrus-Erie machine, one year old, one-piece derrick, excellent condition, mounted on a 1951 Dodge with 2-speed axle; 500′ of ⅝″ and 500′ of 7/16″ cable and complete tools. Harvey Acker, Hales Corners, Wis. Do not write; phone ORchard 2-5667.

MISCELLANEOUS

Used turbine pump for permanent use or for test pump, 180′ of 10″ ID standard pipe screwed column, 2 3/16″ shaft, rubber bearing, water lubricated, Peerless column. Also Peerless 6-stage 16″ MA bowl, 15″ OD, capacity 2000 gpm against 200′ total head, 12′ of 10″ ID tail pipe. Motor and head 200-hp, 60-cycle, 4000-volt, 1175 rpm. Also 200-hp, 4000-volt Cutler-Hammer hand controller. P. O. Box 711

For Sale: One 10-hp Worthington turbine pump, discharge head, 180′ 4½″ column. Good condition. Complete for $300. W. D. Stevens & Sons, Montrose, Minn.

New pipe casing in stock: 3″, 4″, 6″, 8″, 10″, 12″. Reconditioned pipe casing in stock: 3″, 4″, 4½″, 5″, 6″, 8″, 10″, 12″. Cutting and threading facilities; attractive prices on request. H. Schwartz & Sons, 2235 North Bodine St., Phila., Pa., Garfield 6-6464.

4—Buda model K-428-6 cylinder 4⅜″ x 4¾″ gasoline engines with accessories. Special reduced price: $550 each, f.o.b. Guelph, Ontario, Canada. Bucyrus-Erie Co., South Milwaukee, Wis.

#8 Bucyrus-Erie bit dresser electrically driven for dressing 6″ and 8″ bits. Equipped with oil burning furnace, three rack quenching tank and pin cap for 2″ x 3″—8 OWS joints. Purchased new this year. A bargain at $3000. S & S Well Drilling Co., Jack Sanga, Eastford, Conn. Phone: WAlnut 8-3489.

FORD MODEL JD-1025 GASOLINE ENGINE with radiator-flywheel, ring gear and starter. $200.
*** All Prices f.o.b. South Milwaukee, Wisconsin.**
Bucyrus-Erie Company, South Milwaukee, Wisconsin.

Complete string of big hole tools with 8″—10″ and 12″ bits. Joints 2½″ x 3½″-7 API.
New: Universal Giant #101-AA clutch, shaft, sprockets, chain and drum.
Temper screw with clamps.
8″ and 10″ pipe with coupling. Reasonably priced. Alexander Blote, 13-14 River Road, Fair Lawn, N. J. Phone: SW 6-0570.

For Sale: 24-W Bucyrus-Erie, good lines, two strings of tools, mounted on 2-ton Int. truck, 2-speed; propane tank. Price: $6000. All in good repair, ready to go.
Reich Bros. 400 on good Ford truck. 700 drill stem; all like new. Price: $10,000. Hayden Toliver, R.R. 1. Bedford, Ind. Phone: 4881.

HELP WANTED

Experienced driller to operate like-new Bucyrus-Erie 21-W. Prefer family man. Good opportunity for capable driller. Contact Mrs. Llyod Fredricks, 900 E. Holt, Milwaukee, Wis. PHONE: HUmboldt 3-6675 after 5:00 p.m.

EQUIPMENT WANTED

Wanted, Cathead assembly for 21-W Bucyrus-Erie rig. State Price: Box 712

POSITION WANTED

Driller, 40 years experience available for foreign service as instructor-supervisor. Several years in Turkey. Box 686

Sober, reliable, cable tool driller with 16 years drilling experience desires steady job. Preferably in Mid-west. Leonard R. Jarrett, Rt. #1, Scales Mound, Ill. Phone: 634 Ring 2-Galena, Ill.

WELL BUSINESS FOR SALE

1950 Bucyrus-Erie 24-L with 2½ years actual running time; 3 trucks, house trailer, Kohler light-plant, tool strings and lines for 5″ to 30″ holes, including $3500 worth of new fishing tools. Located in Rocky Mountain area. Certified inventory of $29,800. Will sell ½ interest in this going concern to experienced competent hustler, to operate the business here or elsewhere. Buyer to take over complete management and operation or will sell entire established business and equipment for $15,000 one-half cash. Phone FI-21742, Sioux Drilling Co. P. O. Box 348, Rapid City, S. D.

THE BARGAIN COUNTER CAN HELP YOU IN BUYING AND SELLING USED RIGS

Odenheimer...

(Continued from page 39)

facturers as Fairbanks-Morse, Peerless, Pleuger, Lancaster and other well-known makes.

The jet pumps are usually Fairbanks-Morse. Separate crews install all pumps; the drillers simply put down hole.

Galvanized pipe is used exclusively and is purchased from a local supply house. Where necessary in this hard limestone area, Johnson well screens are used, normally in 8 or 9-ft. lengths and 8-in. diameter.

Married and the father of two daughters, 27 and 18 years old, Odenheimer lives in a 5-room ranch-style home immediately to the rear of, and on a hill overlooking, his shop and office building.

When asked about his business status, Odenheimer said, "We've had more business the past year than we could handle. That's why we're buying more equipment, like that new 22-W, for example.

"Our records indicate that we drilled over 21,000 feet during 1956. This includes considerable footage on big diameter wells, including seven or eight 20-in. wells.

"The future of our business looks as good now as it has ever looked in the past 17 years. But we don't know what will develop next month. We have to face situations as they arise.

"Meanwhile, our reputation for good work is our best advertising. We also sponsor five minutes of news each day on a local radio station. With the additional distribution of pens, matches, calendars and other novelties, we get our name spread around pretty good."

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The newly-elected president of the NWWA, Tom Renner, Minneapolis, Minn. (L), accepts the gavel from out-going president Howard Andrew of Idaho Falls, Idaho. Other officers are (back row, L to R): Owen Lininger, Greenville, Pa., secretary; E. W. Henkle, Garden City, Kans., treasurer; H. F. Smith, Urbana, Ill., vice-president, Technical Div.; Floyd Oliver, Greeley, Colo., president-elect; and Robert L. Clark, Stockton, Calif., vice-president, Contractors Div. The election of officers took place at the 1957 NWWA Exposition held in Oklahoma City, Okla., Nov. 4-8.

The **Driller**

The monthly magazine for water well drillers

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